At Eastern Connecticut
State University

Testimony of William Leahy
Institute for Sustainable Energy at Eastern Connecticut State University
Before the
Higher Education and Employment Advancement Committee
Thursday, February 19, 2009

Good afternoon Senator Handley, Representative Willis and distinguished members of the Higher Education and Employment Advancement Committee. My name is William Leahy and I am the Chief Operating Officer for the Institute for Sustainable Energy (ISE) at Eastern Connecticut State University (ECSU) and I am speaking on behalf of President Elsa Nunez. I am here today to speak in support of a number of proposed bills including proposed **HB 5488**, **HB 6141**, **HB 5975**, **HB 5837**, and **HB 5427.** Specific comments can be found on page 6 of my testimony.

I would like to take this opportunity to thank you for the concern and attention you have given to addressing "Green Job "issues in Connecticut. The ISE supports your concerns over the current economic climate in our country and specifically in Connecticut and its impact on Connecticut's businesses and workforce. We also appreciate your interest in supporting the training needs of our workforce as we gear up for a transition to a Green Collar Economy.

Having spent my entire forty year career engaged in the fields of technical education, energy and sustainability, I felt particularly well qualified to assist you in this period of transition. There is the potential for many good initiatives which could be incorporated within the proposed legislation that you are considering today. Before getting into my specific recommendations, I would like to provide the committee with some important background information, including the rational for the development of a Green Collar Economy by the current administration and Congress in Washington DC.

"The jobs we create will be in businesses large and small across a wide range of industries. And they'll be the kind of jobs that don't just put people to work in the short term, but position our economy to lead the world in the long-term.

We'll create nearly three million jobs by investing in clean energy, by committing to double the production of alternative energy in the next three years, and by modernizing more than 75% of federal buildings and improving the energy efficiency American homes. These made-in-America jobs building solar panels and wind turbines, developing fuel-efficient cars and new energy technologies pay well, and they can't be outsourced."

President- Barack Obama

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Connecticut's Opportunity

Connecticut has the opportunity to participate in the American Recovery and Reinvestment Plan,[i] and take a leadership position in creating a more energy efficient and sustainable future by providing for the deployment of a Green-Collar workforce. Through the existing organizational and educational framework of the state's agencies and higher education system, programs should be designed to support the full spectrum of career options from weatherization specialists through research scientists; from apprentice green builders through entrepreneurs; from biofuel processors to carbon traders. Below is a summary of the Green Collar Economy initiative and recommendations for the 2009 General Assembly.

What is a Green-Collar Job?

- **Green-Collar Jobs are**
  - Jobs that preserve, restore, or improve the environment.
  - Jobs that help save energy, advance new energy efficient technologies, and foster a more sustainable regional and national energy system.
  - Either blue or white collar positions, updated to adopt sustainability as a core segment of the individuals' job description.
  - Career opportunity capable of supporting a family's income, with the potential for advancement.

Why do we Need Green-Collar Jobs?

- **Green-Collar Jobs provide us with a host of opportunities and advantages, such as:**
  - Creating new jobs or retraining the unemployed in a time of economic downturn.
  - Providing opportunities for career advancement in the sustainability fields.
  - Reducing our dependence on foreign oil, and strengthening national security.
  - Promoting the use of domestic renewable energy resources.
  - Reducing the tax burdens of inefficient public buildings and public housing.
  - Mitigating climate change by cutting green house gas emissions.

Building a Green-Collar Workforce

- **Making Green-Collar Jobs Available to Connecticut's Residents:**
  - The key to making these opportunities available to the citizens of Connecticut lies in developing programs for our future workforce. These programs will provide crucial education and skills training to help Connecticut's government operate more efficiently by establishing and implementing minimal efficiency operating standards for all public buildings. Green Collar job training also help businesses to become leaders in emerging sustainable industries, such as; building weatherization and efficiency retrofitting, mass transit and freight rail, "Smart Grid" power systems, and renewable technologies, such as; wind, solar, geothermal and biofuel.

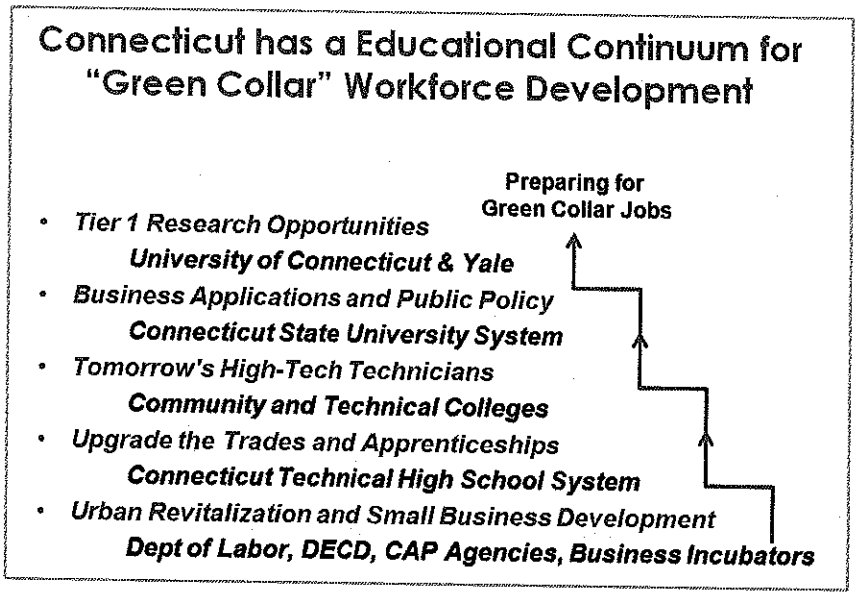
What are the Green Collar Jobs?

- Some jobs will be created directly by the American Recovery and Reinvestment Plan, while others will grow out of normal economic growth created by businesses supporting infrastructure projects and support for the needs of the workers. Jobs in construction and manufacturing are projected to have the largest growth. These jobs will generally offer higher than average wages and include a significant percentage of union jobs, as well as jobs for women and minorities. Below is a sample of the jobs projected[ii] to be created from the federal recovery plan.

GREEN INVESTMENTS AND JOBS

STRATEGIES FOR GREEN ECONOMIC INVESTMENT	REPRESENTATIVE JOBS
Building Retrofitting	Electricians, Heating/Air Conditioning Installers, Carpenters, Construction Equipment Operators, Roofers, Insulation Workers, Carpenter Helpers, Industrial Truck Drivers, Construction Managers, Building Inspectors
Mass Transit/Freight Rail	Civil Engineers, Rail Track Layers, Electricians, Welders, Metal Fabricators, Engine Assemblers, Bus Drivers, Dispatchers, Locomotive Engineers, Railroad Conductors
Smart Grid	Computer Software Engineers, Electrical Engineers, Electrical Equipment Assemblers, Electrical Equipment Technicians, Machinists, Team Assemblers, Construction Laborers, Operating Engineers, Electrical Power Line Installers and Repairers
Wind Power	Environmental Engineers, Iron and Steel Workers, Millwrights, Sheet Metal Workers, Machinists, Electrical Equipment Assemblers, Construction Equipment Operators, Industrial Truck Drivers, Industrial Production Managers, First-Line Production Supervisors
Solar Power	Electrical Engineers, Electricians, Industrial Machinery Mechanics, Welders, Metal Fabricators, Electrical Equipment Assemblers, Construction Equipment Operators, Installation Helpers, Laborers, Construction Managers
Advanced Biofuels	Chemical Engineers, Chemists, Chemical Equipment Operators, Chemical Technicians, Mixing and Blending Machine Operators, Agricultural Workers, Industrial Truck Drivers, Farm Product Purchasers, Agricultural and Forestry Supervisors, Agricultural Inspectors

- Utilizing the existing agencies and our higher education structure, Connecticut could create a continuum of educational programs and certification training to provide participants with the skills necessary to tackle tomorrow's energy career opportunities. These include family supporting, career tracking sustainable jobs.



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The Green-Collar Continuum:

- **Welfare-to-Work / Job Core / Recently Incarcerated Individuals**

  Traditionally, the Department of Labor and local urban renewal organizations have held the responsibility for creating job training for unemployed and under-employed individuals. Programs should be offered through the Community Colleges taught in the CT Technical High School construction technology labs. The recovery plan provides funding for weatherization training that could evolve into sustainable careers, such as:

  - Building retrofiting and weatherization, energy auditors
  - Automobile retrofitting (to reduce emissions and raise mpg)
  - Brownfield remediation and urban forestry

- **The Connecticut Technical High School System**

  Connecticut's technical high school system has the responsibility of preparing students for post-secondary education, including apprenticeships, as well as immediate productive employment. The system responds to employers' and industries' current and emerging workforce needs and expectations identified through business/school partnerships. This would include occupations such as:

  - Tradesman and supervisors for energy efficiency construction
  - Renewable energy systems installers
  - Servicing of alternative fuel vehicles
  - Construction and service to transmission and distribution of green energy systems
  - Sustainable manufacturing and producing "Green" products
  - Residential energy auditing

- **Connecticut's Community Colleges**

Graduates would be prepared in a number of technical certification and associate degree programs related to the construction and manufacturing industries, building operations, alternative fuel transportation and the installation of alternate energy systems. Jobs include:

- Green building construction and building automation specialist
- Advanced transportation systems technician
- Supervisors and Mechanical Engineers in Green Manufacturing
- Renewable energy systems site assessor
- Commercial and Government building energy auditors

- **CSUS System**

Graduates would be prepared in programs related to the operation of the energy systems, managing sustainable businesses, the formation of sound energy public policy, and the administration of public programs that promote a more sustainable Connecticut. Jobs include:

- Energy accountants and analysts, power purchasers and carbon traders
- Energy policy specialists and business entrepreneurs
- Energy efficiency application specialists
- Renewable energy application specialists, including geothermal and fuel cells
- Business, campus and community sustainability coordinators

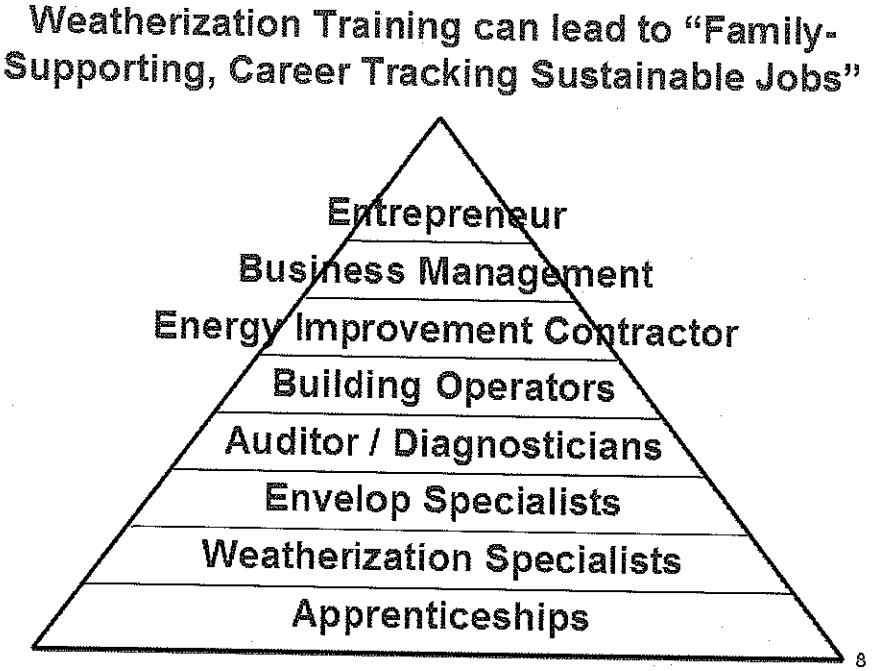
- **UConn and Yale**

UConn and Yale both provide a valuable setting for high level scientific and engineering research, including Tier 1 research for future energy solutions in fuel cells, biofuels and other renewable energy technologies.

Setting Priorities

In order for the federal recovery package and the actions of Connecticut government to be successful, the focus should be on creating "family supporting, career tracking, sustainable jobs, not just temporary work that require government subsidy. In planning workforce development, training must truly provide individuals with knowledge and skills that are recognized as being needed by industry and our society and that command compensation above minimum wage. This strategy requires that certification programs be based on recognized industry standards, including appropriate classroom study, field application or apprenticeship and testing.

Initially, many of the jobs created by the federal recovery package may involve work on energy efficiency projects in government building, schools and public housing. Ultimately all training should be based on a career track that encourages the participant to progress beyond the initial job by continuing their education and training, ultimately leading to private sector employment or small business development. Below is a schematic demonstrating how a basic weatherization training program can logically lead to a career path in the private sector. As a model, this example demonstrates how the stimulus package could create workforce development programs that directly benefits taxpayers by, first lowering the burden of taxes spent on high energy bills in public buildings and eventually provides private sector services in their communities for making home and businesses more energy efficiency.



Comments on the Proposed Bills

- **HB 5488 and HB 6141**: Create a taskforce of stakeholders to define opportunities and responsibilities for workforce development, administration and job creation programs:
  - Include DECD, Dept of Labor, Higher Education (including CSUS, CT THSS, CT CC, CSCS, UConn), CEEF, CCEF, DEP, and ISE.
  - Provide support for the development of these programs should Federal Recovery and Reinvestment Funding become available.

- **HB 5488** - The Connecticut Technical High School System, with the Institute for Sustainable Energy at ECSU and the Connecticut Green Building Council, should modify its curriculum by 2010, ensuring that students graduating from their programs in construction related subjects could be certified by the Building Performance Institute (BPI), "LEED for Homes" by the US Green Building Council (US GBC) or the Interstate Renewable Energy Council (IREC) for renewable energy systems. Students in the Transportation field should be trained in servicing alternative fuel vehicle.

- **HB 5488 & HB 5975**- The Connecticut Community College System, working with the Institute for Sustainable Energy at ECSU and the Connecticut Green Building Council, should develop certification programs by 2010 to prepare students in construction related programs such as those of the Building Performance Institute (BPI), "LEED for Homes," "LEED New Construction" and "LEED Existing Building" accreditation certifications from the US GBC, or the Interstate Renewable Energy Council (IREC) for renewable energy systems.

- **HB 5488** - The Connecticut State University System should develop degree programs by 2010 to prepare students in sustainability careers related to the assessment and operation of the energy systems, energy accounting and analysis, power purchasing and carbon trading, managing sustainable businesses and communities, the formation of sound energy public policy, and the administration of public programs that promote a more sustainable Connecticut.

- **HB 5488** & **HB 5837** – Programs for the unemployed and programs for retraining of the workforce for emerging sustainable energy careers should be developed by the CT Community College System and offered in building construction, electrical and HVAC labs at regionally CT Technical High Schools facilities as afternoon and evening workforce redeployment programs by 2010.

- **HB 5427 & HB 5837** - The Connecticut Technical High School System and the Connecticut Community College System, working with the Institute for Technical and Business Development at CCSU, should develop certification programs to prepare students in manufacturing related programs for "Green" manufacturing programs and the production of environmentally preferred products by 2010.

Thank you for this opportunity to support this important legislation. I encourage you to act on this bill as soon a possible. I would be happy to answer any questions that you may have at this time.

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[i] Pollin, et al,"The Job Impact of the American Recovery and Reinvestment Plan" http://www.americanprogress.org/issues/2008/09/pdf/green_recovery.pdf (September 2008).

[ii] Christina Romer, Jared Bernstein; "Green Recovery" http://otrans.3cdn.net/ee40602f9a7d8172b8_ozm6bt5oi.pdf (January 9, 2009.

The Institute for Sustainable Energy at Eastern Connecticut State University was established in 2001 to provide an unbiased view of energy resources and practical solutions to improving the state's energy profile and to promote a more sustainable energy future for Connecticut. The Institute's focuses on matters related to the formation of public policy, providing educational outreach, supporting energy solutions and maintaining information resources on energy and sustainability. The Institute provides benchmarking and energy planning services, relative to energy efficiency and use of renewable energy sources and the application of high performance building standards, to Connecticut's municipal governments, school systems and state agencies.

William M. Leahy is the Chief Operating Officer of the Institute for Sustainable Energy at Eastern Connecticut State University (ECSU). He holds a BS and MS in Industrial Education from Central Connecticut State University and a MS in Business from Rensselaer. He earned a Certified Energy Manager (CEM) and Certified Sustainable Development Manager (CSDM) from the Association of Energy Engineers and is a LEED Accredited Profession from the US Green Building Council. Leahy has forty years of experience in public education and/or energy management.

In 2002, Leahy was appointed Director at the Institute for Sustainable Energy at Eastern Connecticut State University. Institute is the recipient of the 2004 National Energy Star Partnership Award for Community Leadership in Energy Education from the US Department of Energy and Environmental Protection Agency, as well as numerous recognitions from regional and state organizations.